TABLE 2.4-1 Summary Comparison of Potential Environmental Consequences of the Alternatives[a] (Impacts associated with expanded operations are shown in brackets where they would differ from those presented for the proposed design.)

	Proposed Action			No Action	
Environmental Consequence	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Human Health and Safety — Normal Facility Operations					
Radiation exposure					
Construction					
New cylinder yard workers	Potential external radiation exposures (above background); estimated individual worker dose of 30 mrem/yr for either Area 1 or Area 2.	Same as Location A	Same as Location A	NA[b]	NA
Conversion facility workers	<60 mrem/yr over a 2-year construction period (if new cylinder yard is located at Area 1).	Background	Background	NA	NA
Operations					
Involved workers					
Average dose to individual involved workers	Conversion facility: 75 mrem/yr [100 mrem/yr] Cylinder yards: 510–600 mrem/yr [680–800 mrem/yr]	Same as Location A	Same as Location A	600 mrem/yr	410 mrem/yr

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Collective dose to involved workers	Conversion facility: 10 person-rem/yr [10.7 person-rem/yr] Cylinder yards: 3 person-rem/yr [4 person-rem/yr]	Same as Location A	Same as Location A	11.5 person-rem/yr	5 person-rem/yr
Total health effects among involved workers for the life of the project (through 2039 for no action)	1 in 10 chance of 1 latent cancer fatality (LCF)	Same as Location A	Same as Location A	1 in 5 chance of 1 LCF	1 in 12 chance of 1 LCF
Noninvolved workers					
Maximum dose to noninvolved worker maximally exposed individual (MEI)	$<5.5 \times 10^{-6}$ mrem/yr [$<7.3 \times 10^{-6}$ mrem/yr]	Same as Location A	Same as Location A	0.15 mrem/yr	0.048 mrem/yr
Collective dose to noninvolved workers	$<9.9 \times 10^{-6}$ person-rem/yr [$<1.3 \times 10^{-5}$ person-rem/yr]	Same as Location A	Same as Location A	0.001 person-rem/yr	0.0005 person-rem/yr
Total health effects among noninvolved workers for the life of the project (through 2039 for no action)	<1 in 1 million chance of 1 LCF	Same as Location A	Same as Location A	<1 in 50,000 chance of 1 LCF	<1 in 100,000 chance of 1 LCF
General public					
Maximum dose to the general public MEI	$<2.1 \times 10^{-5}$ mrem/yr [$<2.8 \times 10^{-5}$ mrem/yr]	Same as Location A	Same as Location A	<0.1 mrem/yr (during storage) <0.4 mrem/yr (long-term)	<0.2 mrem/yr (during storage) <0.5 mrem/yr (long-term)

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Collective dose to general public within 50 mi (80 km)	6.2×10^{-5} person-rem/yr [8.2×10^{-5} person-rem/yr]	Same as Location A	Same as Location A	0.002 person-rem/yr	0.005 person-rem/yr
Total health effects among members of the public over the life of the project (through 2039 for no action)	<1 in 1 million chance of 1 LCF	Same as Location A	Same as Location A	<1 in 25,000 chance of 1 LCF	<1 in 10,000 chance of 1 LCF
Chemical exposure of concern[c] (concern = hazard index >1)					
Noninvolved worker MEI	Well below levels expected to cause health effects (hazard index <0.1).	Same as Location A	Same as Location A	Well below levels expected to cause health effects (hazard index <0.1).	Well below levels expected to cause health effects (hazard index <0.1).
General public MEI	Well below levels expected to cause health effects (hazard index <0.1).	Same as Location A	Same as Location A	Well below levels expected to cause health effects (hazard index <0.1).	Well below levels expected to cause health effects (hazard index <0.1).
Human Health and Safety — Facility Accidents[d]					
Physical hazards (involved and noninvolved workers)					
Construction: on-the-job fatalities and injuries	Conversion facility: 0 fatalities; 11 injuries Cylinder yards: 0 fatalities; 1 injury	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Operations: on-the-job fatalities and injuries	0 fatalities/yr 8 injuries/yr [40 fewer total injuries from reducing processing time by 5 years]	Same as Location A	Same as Location A	0 fatalities/yr; 1 injury/yr	0 fatalities/yr; 0.7 injury/yr
Accidents involving chemical or radiation releases, low frequency-high consequence accidents					
Bounding chemical accidents	Hydrogen fluoride (HF) tank rupture (high for adverse effects); anhydrous ammonia (NH_3) tank rupture (high for irreversible adverse effects).	Same as Location A	Same as Location A	Cylinder ruptures – fire (high for adverse effects); corroded cylinder spill, wet conditions (high for irreversible adverse effects).	Cylinder ruptures – fire (high for adverse effects); corroded cylinder spill, wet conditions (high for irreversible adverse effects).
Release amounts	25,680 lb (11,600 kg) of HF 29,500 lb (13,400 kg) of NH_3	Same as Location A	Same as Location A	24,000 lb (11,000 kg) of DUF_6 (fire); 96 lb (44 kg) of HF (spill, wet conditions)	24,000 lb (11,000 kg) of DUF_6 (fire); 96 lb (44 kg) of HF (spill, wet conditions)
Estimated frequency	<1 time in 1,000,000 years	Same as Location A	Same as Location A	≈1 time in 100,000 years (both accidents)	≈1 time in 100,000 years (both accidents)
Probability – life of the project (through 2039 for no action)	<1 chance in 56,000	Same as Location A	Same as Location A	≈1 in 2,500	≈1 in 2,500

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Consequences (per accident)[e]					
Chemical exposure – public					
Adverse effects	29–2,200 persons	30–2,000 persons	33–2,300 persons	4–680 persons	640 persons
Irreversible adverse effects	2–200 persons	2–210 persons	4–210 persons	0–1 person	0 persons
Fatalities	0–4 persons	0–4 persons	0–4 persons	0 persons	0 persons
Chemical exposure – noninvolved workers[f]					
Adverse effects	580–810 persons	880–1,400 persons	850–1,100 persons	160–1,000 persons	770 persons
Irreversible adverse effects	390–810 persons	370–1,400 persons	50–1,100 persons	0–110 persons	140 persons
Fatalities	0–20 persons	0–30 persons	0–20 persons	0–1 person	0-1 person
Accident risk (consequence × probability)					
General public	0 fatalities	Same as Location A	Same as Location A	0 fatalities	0 fatalities
Noninvolved workers[f]	0 fatalities	Same as Location A	Same as Location A	0 fatalities	0 fatalities
Bounding radiological accident	Earthquake accident damages U_3O_8 storage building containing 6 months' of product	Same as Location A	Same as Location A	Cylinder ruptures – fire	Cylinder ruptures – fire
Release	135 lb (61 kg) of depleted U_3O_8 [180 lb (82 kg) of depleted U_3O_8]	Same as Location A	Same as Location A	24,000 lb (11,000 kg) of UF_6	24,000 lb (11,000 kg) of UF_6
Estimated frequency	≈1 time in 100,000 years	Same as Location A	Same as Location A	≈1 time in 100,000 years	≈1 time in 100,000 years
Probability – life of the project (through 2039 for no action)	≈1 chance in 6,000	Same as Location A	Same as Location A	≈1 chance in 2,500	≈1 chance in 2,500

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Consequences (per accident)					
Radiation exposure – public					
Dose to MEI	1–30 rem [1-40 rem]	Same as Location A	Same as Location A	13 mrem	13 mrem
Risk of LCF	1 chance in 50			7 in 1 million	7 in 1 million
Total dose to population (within 50 mi [80 km])	7–30 person-rem [9–40 person-rem]			34 person-rem	73 person-rem
Total LCFs	1 chance in 50 of 1 LCF [1 chance in 40 of 1 LCF]	Same as Location A	Same as Location A	1 chance in 50 of 1 LCF	1 chance in 30 of 1 LCF
Radiation exposure – noninvolved workers[f]					
Dose to MEI	1–30 rem [1-40 rem]	Same as Location A	Same as Location A	20 mrem	20 mrem
Risk of LCF	1 chance in 50	Same as Location A	Same as Location A	8 in 1 million	8 in 1 million
Total dose to workers	0.2–400 person-rem [0.3–530 person-rem]	0.2–530 person-rem [0.3–710 person-rem]	0.2–430 person-rem [0.3–570 person-rem]	16 person-rem	16 person-rem
Total LCFs	1 chance in 5 of 1 LCF [1 chance in 4 of 1 LCF]	1 chance in 5 of 1 LCF [1 chance in 4 of 1 LCF]	1 chance in 5 of 1 LCF [1 chance in 4 of 1 LCF]	1 chance in 100 of 1 LCF	1 chance in 100 of 1 LCF
Accident risk (consequence × probability)					
General public	0 LCFs	Same as Location A	Same as Location A	0 LCFs	0 LCFs
Noninvolved workers[f]	0 LCFs	Same as Location A	Same as Location A	0 LCFs	0 LCFs

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
	Human Health and Safety — Transportation				
Transportation impacts during normal operations					
Total fatalities from exposure to vehicle exhaust emissions					
Maximum use of truck	10 (20if HF is neutralized to calcium fluoride [CaF_2] for disposal)	Same as Location A	Same as Location A	Negligible impacts due to small number of shipments (1 per year) and low concentration of expected contamination.	Negligible impacts due to small number of shipments (1 per year) and low concentration of expected contamination.
Maximum use of rail	<1 (1 including CaF_2)	Same as Location A	Same as Location A	Negligible	Negligible
Total fatalities from exposure to external radiation					
Maximum use of truck	<1	Same as Location A	Same as Location A	Negligible	Negligible
Maximum use of rail	<1	Same as Location A	Same as Location A	Negligible	Negligible
Maximum radiation exposure to a person along a route (MEI)	Negligible (<0.1 mrem)	Same as Location A	Same as Location A	Negligible	Negligible
Traffic accident fatalities (life of project); (physical hazards, unrelated to cargo)					
Maximum use of trucks	1 (2 if HF is neutralized to CaF_2 for disposal)	Same as Location A	Same as Location A	Negligible	Negligible
Maximum use of rail	1 (including CaF_2)	Same as Location A	Same as Location A	Negligible	Negligible

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Traffic accidents involving radiation or chemical releases					
Low frequency-high consequence cylinder accidents					
Bounding accident scenario	Urban rail accident involving DUF_6 cylinders	Same as Location A	Same as Location A	NA	NA
Release	Uranium, HF	Same as Location A	Same as Location A	NA	NA
Probability – life of the project	About 1 chance in 140,000	Same as Location A	Same as Location A	NA	NA
Consequences (per accident)					
Chemical exposure – all workers and members of general public					
Irreversible adverse effects	4	Same as Location A	Same as Location A	NA	NA
Fatalities	0	Same as Location A	Same as Location A	NA	NA
Radiation exposure – all workers and members of general public					
Total LCFs	60	Same as Location A	Same as Location A	NA	NA
Accident risk (consequence × probability) workers and general public	0 fatalities	Same as Location A	Same as Location A	NA	NA
Low frequency-high consequence accidents with all other materials				NA	NA
Bounding accident scenario	Urban rail accident involving anhydrous NH_3	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Release	Anhydrous NH_3	Same as Location A	Same as Location A	NA	NA
Probability – life of the project	About 1 chance in 400,000	Same as Location A	Same as Location A	NA	NA
Consequences (per accident)					
Chemical exposure – all workers and members of general public					NA
Irreversible adverse effects	5,000	Same as Location A	Same as Location A	NA	NA
Fatalities	100	Same as Location A	Same as Location A	NA	NA
Accident risk (consequence × probability)					NA
Irreversible adverse effects	0	Same as Location A	Same as Location A	NA	NA
Fatalities	0	Same as Location A	Same as Location A	NA	NA
Air Quality and Noise					
Pollutant emissions during new cylinder yard construction	Total (modeled plus background) concentrations for particulate matter (PM) with an aerodynamic diameter less than or equal to 2.5 μm ($PM_{2.5}$) would be close to or above standards at the construction site boundary for both candidate areas; construction-related concentrations would be negligible at the nearest residence.	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Pollutant emissions during conversion facility construction	Total concentrations for PM (PM_{10} and $PM_{2.5}$) would be close to or above standards at the construction site boundary because of high background concentrations; construction-related concentrations would be negligible at the nearest residence. Other criteria pollutants are within standards.	Same as Location A	Same as Location A	NA	NA
Pollutant emissions during conversion facility operations	Total annual-average $PM_{2.5}$ concentration would be above the standard at the site boundary because of high background concentrations; the operations-related concentration would be less than 0.2% of the standard. Other criteria pollutants would be well within standards.	Same as Location A	Same as Location A	Under the controlled cylinder corrosion scenario, the maximum 24-hour HF concentration would be less than 4% of the Kentucky (used for comparison) secondary standard; criteria pollutants would be well within standards.	Under the controlled cylinder corrosion scenario, the maximum 24-hour HF concentration would be less than 23% of the Tennessee primary standard; criteria pollutants would be well within standards.

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
	No concentration increment would exceed applicable prevention of significant deterioration (PSD) increment at the site boundary (Class II area), and all increments would be well below the PSD increment for the nearest Class I area.	Same as Location A	Same as Location A	Under the uncontrolled cylinder corrosion scenario, the maximum 24-hour HF concentration at the site boundary would be up to 28% of the Kentucky (used for comparison) secondary standard.	Under the uncontrolled cylinder corrosion scenario, the maximum HF concentration at the site boundary would be about equal to the Tennessee primary standard (2.9 $\mu g/m^3$) around the year 2020.
Estimated noise levels at the nearest residence	Below the U.S. Environmental Protection Agency (EPA) guideline of 55 dB(A) as day-night average sound level (DNL) during construction and operation.	Same as Location A	Same as Location A	Below the EPA guideline of 55 dB(A) as DNL during operation.	Below the EPA guideline of 55 dB(A) as DNL during operation.
		Water and Soil			
Surface water Construction	Negligible impacts from changes to runoff, from floodplains, or from water use and discharge.	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Operations	Negligible impacts from water use and discharge.	Same as Location A	Same as Location A	Negligible impacts from water use and discharge.	Negligible impacts from water use and discharge
Groundwater					
Construction	No direct impacts to groundwater recharge, depth, or flow direction; impacts to groundwater quality unlikely.	Same as Location A	Same as Location A	NA	NA
Operations	No direct impacts to groundwater recharge, depth, or flow direction; impacts to groundwater quality unlikely.	Same as Location A	Same as Location A	Under the controlled corrosion case, maximum uranium groundwater concentration (occurring in around 2070) of 5 µg/L, below the guideline of 20 µg/L.[g] Under the uncontrolled corrosion case, cylinder breaches occurring before 2050 could result in groundwater concentrations exceeding the guideline sometime after 2100.	Under the controlled corrosion case, maximum uranium groundwater concentration (occurring in around 2070) of 7 µg/L, below the guideline of 20 µg/L.[g] Under the uncontrolled corrosion case, cylinder breaches occurring before 2025 could result in groundwater concentrations exceeding the guideline sometime after 2100.

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Soils					
Construction	Local and temporary increase in erosion; impacts to soil quality unlikely.	Same as Location A	Same as Location A	NA	NA
Operations	No direct impacts to soil.	Same as Location A	Same as Location A	Negligible impacts to soils.	Negligible impacts to soils.
Socioeconomics					
New cylinder yard construction	Direct employment of 60 people; 150 total jobs in region of influence (ROI); total personal income of $5.6 million; no significant impacts on public services. Less than 1-year duration of impacts.	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Conversion facility construction	Direct employment of 190 people in peak year; 280total jobs in ROI; total personal income of $9 million in peak year; no significant impacts on public services. Two-year duration of impacts.	Same as Location A	Same as Location A	NA	NA
Operations	Direct employment of 160 people; 320 total jobs in ROI; total personal income of $13 million per year of operations; no significant impacts on public services.	Same as Location A	Same as Location A	Direct employment of 20 people; 40 total jobs in ROI; personal income of $1.0 million per year through 2039; no significant impacts on public services.	Direct employment of 30 people; 90 total jobs in ROI; personal income of $4.2 million per year through 2039; no significant impacts on public services.

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
		Ecology			
Ecological resources (habitat loss, vegetation, wildlife)	Total area disturbed during new cylinder yard construction: 5.5 acres (2.2 ha) – Area 1; 6.3 acres (2.5 ha) – Area 2. Total area disturbed during conversion facility construction: 65 acres (26 ha). Vegetation and wildlife communities impacted and potential loss of habitat; impacts could be minimized by facility placement.	Same as Location A	Same as Location A	Negligible impact to ecological resources; all activities would occur in previously developed areas.	Negligible impact to ecological resources; all activities would occur in previously developed areas.
Concentrations of chemical or radioactive materials	Well below harmful levels; negligible impacts on vegetation and wildlife.	Same as Location A	Same as Location A	Potential for adverse impacts to aquatic biota associated with cylinder yard runoff during painting activities.	Potential for adverse impacts to aquatic biota associated with cylinder yard runoff during painting activities.
Wetlands	Potential direct and indirect impacts to wetlands from facility construction; impacts could be minimized by facility placement.	No direct impacts to wetlands. Possible indirect impacts to nearby wetlands.	Similar to Location B	Negligible impacts	Negligible impacts

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Threatened or endangered species	No direct impacts from construction or operations; destruction of trees with exfoliating bark could indirectly impact the Indiana bat by destroying roosting habitat.	No direct or indirect impacts from construction or operations.	Similar to Location A	Negligible impacts	Negligible impacts
			Waste Management		
Construction	Minimal impacts to site waste management capabilities from construction-generated waste.	Same as Location A	Same as Location A	NA	NA
Operations	Negligible impacts to site management capabilities from low-level radioactive waste (LLW) and hazardous waste generation.	Same as Location A	Same as Location A	No impacts from LLW or low-level radioactive mixed waste (LLMW) generation; both would generate less than 1% of annual site totals for each.	No impacts from LLW or LLMW generation; both would generate less than 1% of annual site totals for each.

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Operations (Cont.)	The triuranium octaoxide (U_3O_8) produced would generate about 4,700 yd^3 (3,570 m^3)/yr [6,250 yd^3 (4,750 m^3)/yr] of LLW. This is 5% [7%] of Portsmouth's annual projected volume; low impact on site LLW management. If HF is neutralized to CaF_2, generation of about 3,745 yd^3 (2,860 m^3)/yr [4,980 yd^3 (3,800 m^3)/yr] of CaF_2. Generation of TRU waste is unlikely under current proposals.				

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
			Resource Requirements [h]		
Construction and operations	No effects on local, regional, or national availability of materials required for construction or operations are expected.	Same as Location A	Same as Location A	No effects on local, regional, or national availability of materials are expected.	No effects on local, regional, or national availability of materials are expected.
			Land Use		
Construction and operations	Up to 65 acres (26 ha) would be disturbed for construction of the conversion facility, with 10 acres (4 ha) permanently altered. Up to an additional 6.3 acres (2.5 ha) would be required for construction of a new cylinder yard. The permanently altered areas represent about 1% of available land already developed for industrial purposes, resulting in negligible impacts to land use.	Same as Location A	Same as Location A	No impacts	No impacts

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Cultural Resources					
Construction and operations	Impacts to cultural resources are possible; archaeological and architectural surveys have not been finalized and must be completed prior to initiation of the proposed action.	Same as Location A	Same as Location A	Impacts would be unlikely because storage yards are located in previously disturbed areas already dedicated to cylinder storage.	Impacts would be unlikely because storage yards are located in previously disturbed areas already dedicated to cylinder storage.
Environmental Justice					
Construction and operations	No disproportionately high and adverse impacts to minority or low-income populations in the general public during normal operations or from accidents.	Same as Location A	Same as Location A	No disproportionately high and adverse impacts to minority or low-income populations in the general public during normal operations or from accidents.	No disproportionately high and adverse impacts to minority or low-income populations in the general public during normal operations or from accidents.
Conversion of ETTP Cylinders at Portsmouth					
Cylinder preparation					
Location of cylinder preparation activities	ETTP: approximately 5,900 ETTP cylinders prepared for shipment to Portsmouth.	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Impacts from using cylinder overpacks	No facility construction required; operational impacts limited to external radiation exposure of involved workers; total collective dose to the worker population of 69 to 85 person-rem at ETTP, with no LCFs expected.	Same as Location A	Same as Location A	NA	NA
Impacts from using cylinder transfer facility	Construction of a transfer facility would be required at ETTP. Operational impacts would generally be small and limited primarily to external radiation exposure of involved workers; total collective dose to the worker population of 440 to 480 person-rem at ETTP, with no LCFs expected.	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Operations if ETTP cylinders are transported to Paducah (option)	If ETTP cylinders were transported to Paducah, the operational period of the Portsmouth conversion plant would be reduced by about 4 years. Annual impacts would be the same, as discussed for each technical discipline. No significant decrease in overall impacts.	Same as Location A	Same as Location A	NA	NA
	Decontamination and Decommissioning				
Activities involved	Disassembly and removal of all radioactive and hazardous components, equipment, and structures, with the objective of completely dismantling the various buildings and achieving greenfield (unrestricted use) conditions.	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
Human health and safety impacts	Decontamination and decommissioning (D&D) impacts primarily limited to external radiation exposure of involved workers; expected exposures would be a small fraction of operational doses; no LCFs expected. No fatalities from occupational accidents expected; up to 5 injuries.	Same as Location A	Same as Location A	NA	NA
Other impacts	Generation of LLW, LLMW, and hazardous waste; approximately 90% of D&D materials generated are expected to be clean.	Same as Location A	Same as Location A	NA	NA
	Impacts Associated with Conversion Product Sale				
Products potentially marketed	HF and/or CaF_2	Same as Location A	Same as Location A	NA	NA
Annual Portsmouth production	55% HF solution: 8,200 t/yr [9,000 tons/yr]	Same as Location A	Same as Location A	NA	NA
	CaF_2: 18 t/yr [20 tons/yr]	Same as Location A	Same as Location A	NA	NA

TABLE 2.4-1 (Cont.)

Environmental Consequence	Proposed Action			No Action	
	Location A (Preferred)	Location B	Location C	at Portsmouth	at ETTP
CaF_2 produced if HF is neutralized	8,800 t/yr [9,700 tons/yr]	Same as Location A	Same as Location A	NA	NA
Maximum estimated radiation dose to a worker from HF or CaF_2 use	<1 mrem/yr	Same as Location A	Same as Location A	NA	NA
Potential socioeconomic impacts from use	Negligible socioeconomic impacts	Same as Location A	Same as Location A	NA	NA

[a] Potential environmental impacts are summarized and compared in this table for the no action alternative and the action alternatives. For the action alternatives, impacts are presented for the three alternative locations within the site; annual impacts are based on the assumption of an 18-year operational period. For the no action alternative, annual impacts are based on the assumption of a 40-year operational period.

[b] NA = not applicable.

[c] Chemical exposures for involved workers during normal operations were not estimated; the workplace environment would be monitored to ensure that airborne chemical concentrations were below applicable exposure limits.

[d] On the basis of calculations performed for this EIS, the accidents that are listed in this table have been found to have the highest consequences of all the accidents analyzed. In general, accidents that have lower probabilities have higher consequences.

[e] The ranges in accident impacts reflect differences in the possible atmospheric conditions at the time of the accident.

[f] In addition to noninvolved worker impacts, chemical and radiological exposures for involved workers under accident conditions (workers within 100 m [328 ft] of a release) would depend in part on specific circumstances of the accident. Involved EPA worker fatalities and injuries resulting from the accident initiator or the accident itself are possible.

[g] The guideline concentration used for comparison with estimated surface water and groundwater uranium concentrations is the former proposed EPA maximum concentration limit (MCL) of 20 μg/L; a revised value of 30 μg/L became effective in December 2003. These values are applicable for water "at the tap" of the user and are not directly applicable for surface water or groundwater (no such standard exists). The guideline concentration used for comparison with estimated soil uranium concentrations is a health-based guideline value for residential settings of 230 μg/g.

[h] Resources evaluated include construction materials (e.g., concrete, steel, special coatings), fuel, electricity, process chemicals, and containers (e.g., drums and cylinders).